

Title (en)  
Device for concentrating or deflecting light.

Title (de)  
Vorrichtung zur Konzentration oder zur Umlenkung von Licht.

Title (fr)  
Dispositif pour concentrer ou dévier la lumière.

Publication  
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Application  
**EP 93102751 A 19930222**

Priority  
DE 4208006 A 19920313

Abstract (en)  
[origin: EP0560107A1] The invention relates to a device (1) for concentrating or for distributing light (2, 2') with the use of a first, planar prism arrangement (3) composed of many, essentially prismatic profiles (4). Similar, planar prism arrangements have been known for a long time as so-called Fresnel lenses. These Fresnel lenses have the disadvantage that the light impinging on them perpendicularly can be deflected from the direction of incidence only in a restricted angular range, and the focal point therefore has a minimum distance from the lens. The object of developing a device of the type of a Fresnel lens so as to permit a large deviation of the light beams (2) in conjunction with low losses and thus a high concentration factor is achieved by providing that the first prism arrangement (3) has at least one second, identical prism arrangement (5) opposite it at a constant distance, that each profile (4) of the first prism arrangement (3) is assigned a profile (6) of the second prism arrangement (5), and that due to the configuration and arrangement of the prismatic profiles (4, 6) each light beam (2, 2') traversing the device is refracted in the same direction of rotation at at least two interfaces (7, 8) at the exit of the two prism arrangements (3, 5) and leaves the device (1) at an acute angle to the plane of the second prism arrangement (5). The device (1) can be used as an optical concentrator, as a background illuminating device or as a display screen. <IMAGE>

IPC 1-7  
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IPC 8 full level  
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Cited by  
EP1519206A3; CN102714250A; US6143224A; EP1835547A4; US6966673B1; US6700055B2; US6231797B1; WO2010025583A1; WO0155650A3; WO9636480A1

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